



Utility Partnership Session

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ECONOMIC OPPORTUNITY STUDIES

Weatherization-Plus for Payment-Troubled Energy Customers: Can It Solve Utility Bill Collection Problems?

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Introduction:

Many Americans cannot afford to pay for all of life's necessities, and the Census Bureau periodically documents the hardships they incur as a result. During its multi-year Survey of Income and Program Participation, householders are asked whether there was one or more occasion in the last 12 months when they could not afford to pay for each of several basic needs.*The data consistently have indicated that the most common problem is an inability to pay utility bills. In 2001, when energy prices were lower and the weather was abnormally warm, 9.6 million consumers, about 8% of American consumers, failed to pay at least one month's energy bill because they could not afford it.

Energy Affordability and WAP

Weatherization Assistance lowers usage and thereby avoids charges that would have been billed. One persistent question for Weatherizers is whether the bills become low enough to be affordable for those with very limited incomes. A similar question affects the willingness of utilities to invest in WAP: do chronically 'payment-troubled' customers become consistent payers following the bill reduction WAP provides?

Analysis of the Census SIPP data shows that poor housing quality seems to predict inability to pay bills even better than does lack of income. The SIPP solicits the respondents' level of satisfaction with their homes' warmth and cooling and records five defects that could increase energy usage or strain energy equipment and systems: holes in the floor, cracks in the walls or ceilings, leaking roof, broken windows and window frames, and/or exposed wiring.

We correlated the inability to pay energy bills ("energy hardship") first with income and the housing characteristics and then, while controlling for income. The association between housing defects and energy hardships is considerably stronger than that between income and energy hardships. Table 1 shows simple two-way correlations between annual income, energy hardships, and housing defects. Having low income "explains" almost 13% of the variation in experiencing unaffordable bills; it weakly predicts poor housing.

Table 1: Simple Correlations of an Energy Hardship and of Housing Conditions with Annual Income	
<i>Income or Housing Condition</i>	<i>Correlation with Income</i>
Has Energy Hardship	-.127(**)
Number of Housing Defects	-.064(**)
Satisfaction with Warmth and Coolness	.063(**)
** Pearson Correlation is significant at the 0.01 level(2-tailed)	

However, as Table 2 shows, there is a far stronger connection between housing problems and the incidence of energy hardships than between incomes and non-payment of bills. A strong relationship also exists between being dissatisfied with the home's temperature and having unaffordable bills. Those with energy hardships were significantly more likely to feel too hot in summer or too cold in winter. This means that, whether a consumer

*The data used in this paper are from the U.S Census Bureau's Survey of Income and Program Participation (SIPP) 2001 Panel Wave 8 Topical Module respondents. <http://www.sipp.census.gov/sipp/>
A more detailed study of the hardships experienced by those who cannot afford energy will be available in January 2006 at <http://www.opportunitystudies.org/weatherization/national.php>

is in poverty or a moderate-income worker, the likelihood that their energy bills will exceed their means is determined more by the condition of their home than by their income. This somewhat unexpected finding should be of great interest to the Department of Energy and even greater interest to utility managers concerned about bill collection.

Table 2: Partial Correlations of an Energy Hardship and of Housing Conditions Controlling for Annual Income		
	<i>Number of Housing Defects:</i>	<i>Satisfaction with Warmth and Coolness</i>
Had an Energy Hardship	0.195	-0.177
D.F= (*****) Correlation is 0.01 at the, two tailed significance		

Weatherization addresses the defects listed above only when there is sufficient funding for repair and health and safety, usually by drawing on other sources; we have long known that making repairs and weatherizing can increase comfort and decrease bills. However, program limits have steered weatherizers away from homes with bad roofs and electric code violations, which appear to be the most likely locations for payment- troubled consumers.

Utilities that review the findings from this analysis of the Census SIPP should develop a renewed interest in financing roof repairs and electrical work as Weatherization Plus investments; in general, a home in good repair is significantly less likely to run up bills beyond the resident’s means. Further, utilities can anticipate that they will have an indefinite relationship with future residents of the originally dilapidated homes. They have the opportunity to make them homes for regular bill-payers. A disproportionate number of the homes reporting many defects were rental units; utilities can even identify those addresses that chronically house payment-troubled accounts and choose then as the most desirable locations for investments in whole-house measures coordinated with WAP.

WAP providers are as concerned about affordable bills as about meeting DOE targets for reducing energy demand; indeed their organizations are typically involved in multiple investments in the families served. These findings point to a Weatherization-Plus solution that is a win-win-win for the Weatherization energy metrics, for the utility bad debt reduction goals, and most of all for the consumer who will be better able to afford basic energy services and other necessities of life.

The Weatherization Leveraging Partnership Project

This research was a part of the EOS Weatherization Leveraging Partnership Project funded by the National Energy Technology Laboratory with support from the Weatherization Assistance Program. It is an element in the Low-Income Energy Consumer Databank section. Please visit our site or call for resources to support your leveraging initiatives.

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